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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,099	06/26/2003	Vutukuru Lakshmi Narasimha Murthy	120331-1	1098

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EXAMINER	
BOYKIN, TERRESSA M	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,099	MURTHY ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2003*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *6-26-04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-11, 23, 24, 25 and 26 are rejected under 35 U.S.C. 102(b, or e) as being anticipated by **USP 6315868** see abstract, figure 1 and figure 2 and tables 1-4; **USP 5426207** see abstract, figures 1 and 2, examples 1-4 and claim 1.

USP 5426207 discloses a continuous process for the production of a di-aryl carbonate comprises: (a) providing a plurality of reaction zones including a primary

reaction zone, a secondary reaction zone, and a tertiary reaction zone; (b) supplying to the primary reaction zone a dialkyl carbonate and an aromatic hydroxy compound; (c) maintaining the primary reaction zone under reaction conditions conducive to formation of the corresponding alkyl aryl carbonate; (d) reacting the dialkyl carbonate and the aromatic hydroxy compound together in the primary reaction zone in the presence of a transesterification catalyst; (e) recovering from the primary reaction zone a vaporous stream comprising alkyl alcohol and a liquid stream comprising alkyl aryl carbonate and depleted in alkyl alcohol; (f) maintaining the secondary reaction zone under reaction conditions conducive to formation of the corresponding alkyl aryl carbonate; (g) reacting material of the liquid stream of step (e) in the secondary reaction zone with further aromatic hydroxy compound in the presence of a transesterification catalyst to produce further alkyl aryl carbonate; (h) recovering from the secondary reaction zone a substantially alkanol-free liquid bottom stream containing alkyl aryl carbonate and excess aromatic hydroxy compound and an overhead vaporous stream; (i) passing material of the bottom stream of step (h) to the tertiary reaction zone; (j) maintaining the tertiary reaction zone under temperature and pressure conditions conducive to formation of diaryl carbonate by disproportionation of alkyl aryl carbonate; and (k) recovering from the tertiary reaction zone a liquid bottom product containing diaryl carbonate and a vaporous overhead stream comprising aromatic hydroxy compound and dialkyl carbonate.

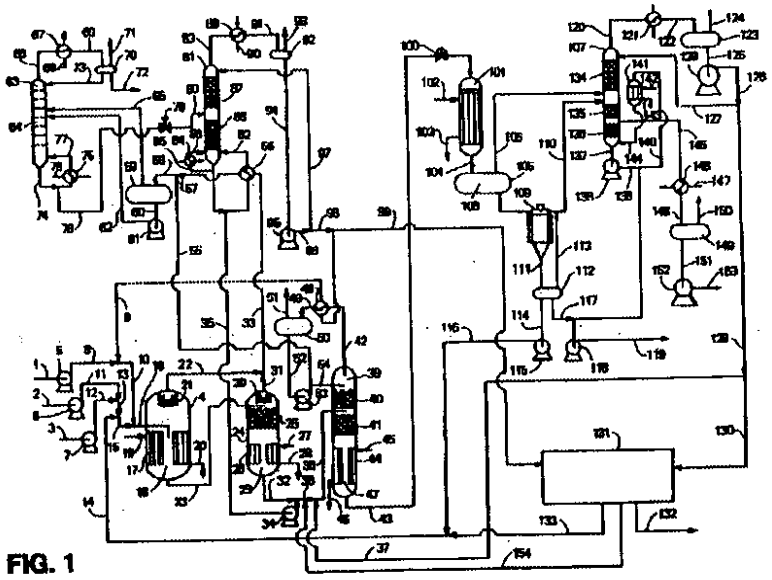
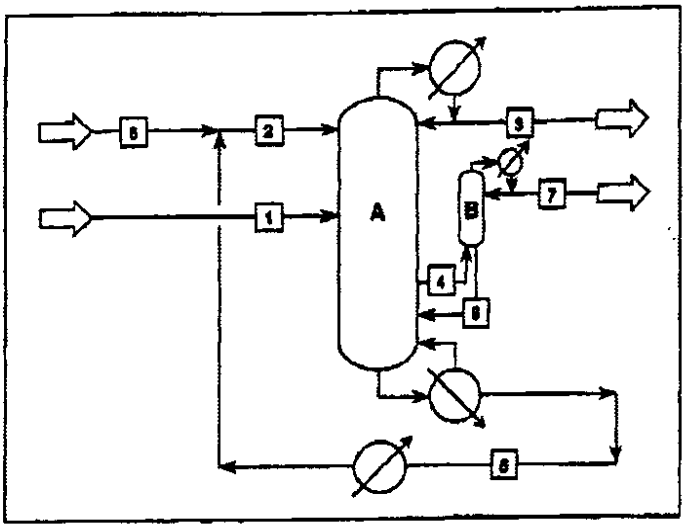


FIG. 1

USP 6315868 discloses a method of separating dimethyl carbonate and methanol from a mixture comprising dimethyl carbonate and methanol in a single distillation column, the method comprising the steps of: A) distilling a mixture comprising dimethyl carbonate and methanol in the presence of an extractive distillation agent selected from the group consisting of an aromatic hydroxy compound, an alkyl aryl ether, a dialkyl carbonate, an alkyl aryl carbonate, a diaryl carbonate, an alkylene carbonate and an alicyclic alcohol; and B) removing a side stream comprising primarily dimethyl carbonate from the distillation column. The invention further concerns a method for purifying dimethyl carbonate in a single distillation column comprising the steps of: A) feeding a dimethyl carbonate/methanol feed stream comprising dimethyl carbonate and methanol and a second stream comprising an extractive distillation agent into the distillation column, the dimethyl carbonate/methanol feed stream being fed into the extractive distillation column below the second stream, the extractive distillation agent selected from the group consisting of an aromatic hydroxy compound, an alkyl aryl ether, a dialkyl carbonate, an alkyl aryl carbonate, a diaryl carbonate, an alkylene carbonate and an alicyclic alcohol; B) distilling the dimethyl carbonate and methanol in the presence of the extractive distillation agent in the distillation column and; C) removing an overhead product stream, a side product stream, and a bottom product stream from the distillation column, the overhead product stream comprising primarily methanol, the side product stream comprising primarily dimethyl carbonate and the bottom product stream comprising primarily the extractive distillation agent. In the reference, a side stream distillation column replaces two distillation columns, each having a reboiler and condenser. The side stream distillation column may be used with a side rectification column if a higher purity product is desired. In the embodiment where a side rectification column is used, the side rectification column is coupled to the side stream distillation column.

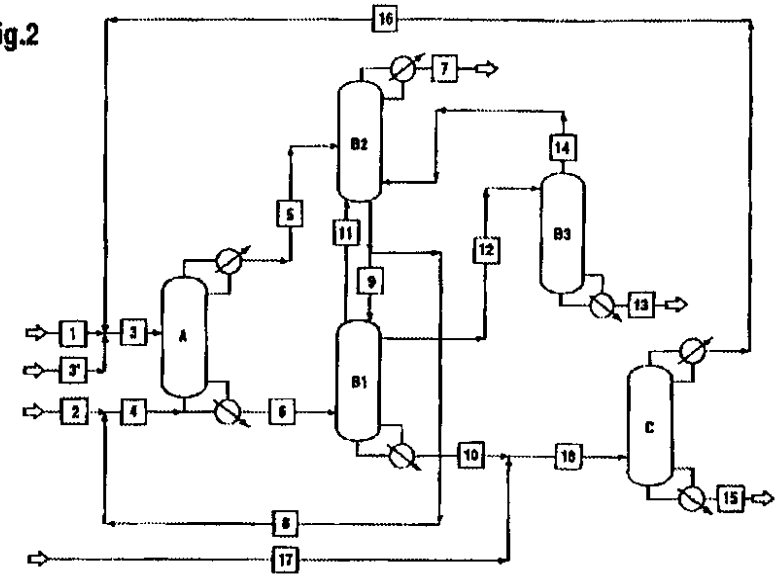


Note also tables 1 and 2 regarding temperature and pressure parameters.

Claims 1-11, 12-21, 23, 24, 25 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by **US 2001/0021786** see figure 1 and figure 2, pages 1-3 and claims 14 through 16.

US 2001/0021786 disclose a method and an apparatus for continuous production of diaryl carbonates by reaction of a dialkyl carbonate and an aromatic alcohol in the presence of a transesterification catalyst. The method comprises the steps of: (a) introducing reactant streams containing dialkyl carbonate, aromatic alcohol and transesterification catalyst to a first reactive distillation column to produce alkyl aryl carbonate and alkyl alcohol; (b) recovering from the first reactive distillation column a first top stream containing dialkyl carbonate and alkyl alcohol and a first bottom stream containing alkyl aryl carbonate; (c) introducing the first bottom stream into a second reactive distillation column to produce diaryl carbonate by disproportionation of the alkyl aryl carbonate; (d) recovering from the second reactive distillation column a first side stream containing dialkyl carbonate and alkyl aryl ether and a second bottom stream containing diaryl carbonate, alkyl aryl carbonate and dialkyl carbonate; (e) introducing the first side stream into a second rectification column to separate a dialkyl carbonate stream from the alkyl aryl ether, and recycling the dialkyl carbonate stream to the first rectification column; (f) introducing the second bottom stream to a third reactive distillation column to further drive the reaction toward diaryl carbonate; (g) recovering from the third reactive distillation column a second top stream containing unreacted aromatic alcohol, dialkyl carbonate and alkyl aryl ether and recycling the second top stream to the first reactive distillation column; (h) introducing the first top stream into a first rectification column; (i) recovering from the first rectification column an azeotrope top stream consisting essentially of dialkyl carbonate/alkyl alcohol azeotrope and a third bottom stream containing dialkyl carbonate, and recycling the third bottom stream to the first reactive distillation column; and (j) recovering a product stream containing essentially all of the diaryl carbonate produced from the bottom of the third reactive distillation column.

Fig.2



Consequently, each of the references above discloses the continuous production of an alkyl aryl ether comprising reacting a dialkyl carbonate and an aromatic alcohol in the presence of a transesterification catalyst using distillation columns. Each reference describes in detail the figures and schematic drawing of how such procedure takes place and each disclosure fall within the scope of applicants claimed invention. In view of the above, there appears to be no significant difference between the reference(s) and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Terressa Boykin, 571 272-1069. The examiner can normally be reached on Monday through Friday from 8:00a.m.-5:30 p.m.

tmb

Terressa Boykin

Examiner Terressa Boykin
Primary Examiner